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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/619,011	07/14/2003	James Michael Halek	E21-006-01-US	6038
22854	7590	12/13/2007		
MOORE & HANSEN, PLLP 225 SOUTH SIXTH ST MINNEAPOLIS, MN 55402			EXAMINER WIMER, MICHAEL C	
			ART UNIT 2821	PAPER NUMBER
			MAIL DATE 12/13/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

**Office Action Summary**

Application No.

10/619,011

Applicant(s)

HALEK ET AL.

Examiner

Michael C. Wimer

Art Unit

2821

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 21 September 2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-26,28-49 and 51-70 is/are pending in the application.
- 4a) Of the above claim(s) 1-19 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 20-26,28-49 and 51-70 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Claim Objections***

1. Claims 31 and 54 are objected to because of the following informalities: These claims are dependent from canceled claims 27 and 50, respectively. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 20-26, 28-49 and 51-70 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kartchner (5914014) in view of Araya et al. (6583394) and Walker (3818333).

Regarding Claims 20, 43 and 68, Kartchner discloses a demulsification arrangement to remove microwave-absorptive material from a substrate comprising a containment structure 2; and an RF applicator 16 delivered from the power source (not shown) operatively coupled and positioned within the containment structure 2 and comprising an antenna body defined as a waveguide, having a longitudinal axis along the RF energy 18, where the energy is reflected from reflector 5 and is radiated through the transparent windows 4. The outer surface of the antenna (defined as the portion connected to the applicator 16, and generally designated as 2) includes the RF transparent, cylindrical windows 4. Thus, regarding the added

language in Claims 20,43 and 68, the windows are RF transparent, formed proximate the antenna body (e.g., the cylindrical portion of the waveguide connected to 16 up to the reflector 5) and seals the antenna body from the environment external to the RF applicator 16. The environment is between the windows 4 and the container walls 3 in Figures 1 and 2. Kartchner teaches in col. 5, lines 17-19 that the apertures/windows may be rectangular in shape. Thus, Araya et al. are cited as resolving the level of ordinary skill in the art and as evidence of obviousness, and teaches in Fig. 4, a waveguide antenna applicator defined as slotted waveguides 12a arranged with slots perpendicular to the axis (vertically in the figure). It would have been obvious to the skilled artisan to employ such a rectangular slotted waveguide of Araya et al. in lieu of the cylindrical one in Kartchner, particularly since rectangular applicators are suggested therein. Walker is cited as showing how an apertured applicator 10 is tapered from the generator 22 outward for presenting the desired mode of radiation. Regarding Claims 21 and 44, Kartchner suggest that conical applicators are well known in the art in col. 2, lines 32-35. It would have been obvious to employ such a shape as the applicator. Further regarding Claims 22-42 and 45-70, the size shaping and composition of the waveguide the dielectric window (e.g., PTFE or fiberglass) with low permittivity are all common materials employ in RF applicators in heaters and antennas. Constructive interference is maintained due to the reflectors 5 in Kartchner. A skilled artisan would have found it obvious to employ any type hydrocarbon material, where the emulsion and substrate is water and oil.

***Response to Arguments***

4. Applicant's arguments filed 9/21/2007 have been fully considered but they are not persuasive. Specifically, the claims have been reconsidered and it has been determined that the added language in Claims 20,43 and 68 implies that the transparent windows 4 in Kartchner do in fact show an arrangement which seals the antenna body which propagates the RF energy, from the environment external to the applicator, which is merely the containment up to the walls 3. The language does not appear to imply any more structure interrelated to the transparent window, applicator and antenna body.

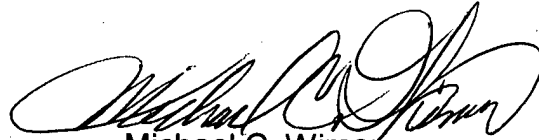
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael C. Wimer whose telephone number is (571) 272-1833. The examiner can normally be reached on M-F.

The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Application/Control Number:  
10/619,011  
Art Unit: 2821

Page 5

A handwritten signature in black ink, appearing to read "Michael C. Wimer", written in a cursive style.

Michael C. Wimer  
Primary Examiner  
Art Unit 2821

MCW  
12/5/2007